

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) Apparatus, including

a storage element including an input disposed for receiving digital content from a DVD physical-medium, the storage element being capable of non-evanescently storing that digital content using a storage technique substantially different from the DVD physical-medium, the digital content from the DVD complying with a CSS license to discourage unauthorized copying of the digital content;

a playback device coupled to the storage element, the playback device having an input disposed for receiving the digital content and having an output disposed for coupling a media stream represented by that digital content for presentation, the digital content complying with the CSS license at the input of the playback device to discourage unauthorized copying of the digital content; and

~~including~~ a media reader, the media reader having a read element capable of being coupled to the DVD physical-medium.

2. (Original) Apparatus as in claim 1, wherein the output for presentation includes a signal following standards for protected signals specified by the CSS license.

3. (Original) Apparatus as in claim 1, whereby the playback device includes a CSS descrambler.

4. (Original) Apparatus as in claim 1, whereby the playback device incorporates and implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and incorporates the Master Key pair.

5. (Original) Apparatus as in claim 1, whereby the playback device does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

6. (Original) Apparatus as in claim 1, whereby the media reader does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

7. (Original) Apparatus as in claim 1, whereby the media reader incorporates and implements the functionality of the CSS Authentication Algorithm, and incorporates the Authentication Key.

8. (Original) Apparatus as in claim 1, whereby the media reader is or contains an Authenticator for CSS Decryption Module and the playback device is or contains a Descrambler, such terms as defined in the CSS Procedural Specifications.

9. (Original) Apparatus as in claim 1, whereby, when each media reader boots, it obtains its operating software from the storage element.

10. (Original) Apparatus as in claim 1, whereby any operating software for a component of the apparatus, which is stored in the storage element, is encrypted when stored and transmitted between components, and decrypted and authenticated in the component for which it is such operating software, before said component becomes operative.

11. (Original) Apparatus as in claim 1, whereby, when each playback device boots, it obtains its operating software from the storage element.

12. (Original) Apparatus as in claim 1, whereby the operating software for the media reader, the storage element, and the playback device is not based on a general-purpose operating system such as Microsoft Windows, or Linux, or a version of Unix.

13. (Original) Apparatus as in claim 1, whereby the structure and operation of the file system in the storage element is a trade secret.

14. (Original) Apparatus as in claim 1, wherein the main printed circuit board of the playback device has at least five layers, and signals containing unscrambled compressed audiovisual data or key material run wherever feasible on traces in interior layers of the board.

15. (Original) Apparatus as in claim 1, wherein those integrated circuits in the playback devices signals containing unscrambled compressed audiovisual data or key material run are area-array and such signals run wherever feasible on interior contacts of such integrated circuits, and wherein those integrated circuits are surface-mounted.

16. (Currently Amended) Apparatus as in claim 1, whereby a ~~the~~ user can only interact with the apparatus through either an on-screen display and associated touchpad and IR remote control protocols, or through a Web user interface.

17. (Original) Apparatus as in claim 1, whereby, the audio data output from the playback device is either in a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

18. (Currently Amended) Apparatus as in claim 1, whereby, the analog video data output from the playback device does not have higher resolution than standard definition, unless the content recorded on the DVD ~~physical medium~~ has itself that higher resolution.

19. (Original) Apparatus as in claim 1, wherein the playback device includes a plurality of those outputs disposed for presentation, at least two of those outputs pairwise having more than one controlling CPU and at least one of the properties in the set: being logically remote, being physically remote.

20. (Original) Apparatus as in claim 1, wherein the playback device includes at least one of those outputs disposed for presentation having a distinct controlling CPU from the storage element and having at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element.

21. (Currently Amended) Apparatus as in claim 1, the digital content being maintained in a protected form

between the DVD ~~physical medium~~ and the media reader,

between the media reader and the storage element,

when maintained on the storage element, and

between the storage element and the playback device.

22. (Original) Apparatus as in claim 21, wherein
at least two elements in the set: the storage element, the playback device, the media reader;

have, pairwise, at least two of the properties in the set: being logically remote, being physically remote, having more than one controlling CPU.

23. (Original) Apparatus as in claim 21, wherein
at least two elements in the set: the storage element, the playback device, the media reader;
are pairwise physically remote, and have separate controlling CPUs.

24. (Original) Apparatus as in claim 1, wherein the media reader includes at least one DVD reader.

25. (Currently Amended) Apparatus as in claim 1, wherein the media reader includes a DVD drive ~~and the physical media includes at least one DVD.~~

26. (Currently Amended) Apparatus as in claim 1, wherein the storage element includes a magnetic disk drive ~~an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.~~

27. (Currently Amended) Apparatus as in claim 1, wherein the digital content is maintained in a protected form for at least two cases in the set:

between the DVD ~~physical medium~~ and the media reader;

between the media reader and the storage element;
when maintained on the storage element;
between the storage element and the playback device.

28. (Currently Amended) Apparatus as in claim 1, wherein the digital content is maintained in a protected form for at least three cases in the set:

between the DVD ~~physical medium~~ and the media reader;
between the media reader and the storage element;
when maintained on the storage element;
between the storage element and the playback device.

29. (Original) Apparatus as in claim 21, wherein the protected form includes at least two of:

an encrypted form of the digital content;
an encrypted form of the digital content complying with the CSS license;
a form of the digital content including digital rights information;
a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

30. (Original) Apparatus as in claim 21, wherein the protected form has at least one of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

31. (Original) Apparatus as in claim 21, wherein the protected form has at least two of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

32. (Original) Apparatus as in claim 21, wherein the protected form is substantially resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools.

33. (Original) Apparatus as in claim 1, wherein the media reader includes a first authenticator and the system exclusive of the media reader includes a second authenticator.

34. (Original) Apparatus as in claim 33, wherein the system complies with CSS procedures.

35. (Original) Apparatus as in claim 33, wherein the system is capable of having the first authenticator and the second authenticator authenticate each other before the media reader permits access to data.

36. (Original) Apparatus as in claim 33, wherein the system is capable of using CSS descrambling procedures at the playback device.

37. (Currently Amended) Apparatus as in claim 1, wherein the storage element has capacity to concurrently store digital content from plural DVDs ~~physical media~~.

38. (Original) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein operation of the system includes at least a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived in response thereto.

39. (Original) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein the digital content is transported any substantial distance after being read by the media reader and before being output by the playback device.

40. (Original) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, including at least one system internal link, the at least one system internal link including a link able to communicate compressed digital data representing media streams;

wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information.

41. (Original) Apparatus as in claim 40, including steps of coupling by a least one system internal link, at least two of the set: the media reader, the storage element, the playback device.

42. (Currently Amended) A media reader, including
a read element for a DVD physical media, the DVD physical media including digital content representing at least one media stream, the digital content being maintained in a protected form in compliance with a CSS license to discourage unauthorized copying of the media stream, and the read element including a first authenticator;

a second authenticator;

an interface to a storage element; and

a controller capable of (1) causing the first authenticator and the second authenticator to authenticate each other before the read element accesses the DVD physical media, and (2) causing

the read element to read data from the DVD ~~physical media~~ and output the data to the interface with DRM information intact.

43. (Original) A media reader as in claim 42, wherein the read element includes a DVD drive.

44. (Original) A media reader as in claim 42, wherein the media reader can output the data to the storage element whether or not the storage element is logically remote from the media reader.

45. (Currently Amended) A method of playing a DVD ~~media~~, including steps of reading the DVD ~~physical media~~ including digital content representing at least one media stream in compliance with a CSS license to discourage unauthorized copying of the media stream, the digital content being maintained in a protected form;

non-evanescently storing the digital content in the protected form using a storage mechanism different from the DVD ~~physical media~~; and

playing back the digital content after conversion into analog, digital, or analog and digital audiovisual content in a second protected form for presentation.

46. (Currently Amended) A method as in claim 45, wherein additional protection is used on the DVD ~~physical media~~, by the storage mechanism, or both.

47. (Currently Amended) A method as in claim 46, wherein the additional protection used on the DVD ~~physical-media~~ is different from the additional protection used by the storage mechanism.

48. (Original) A method as in claim 45, wherein the protected form complies with CSS procedures.

49. (Original) A method as in claim 48, whereby the step of playing back incorporates and implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and involves the Master Key pair.

50. (Original) A method as in claim 48, whereby the step of playing back does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

51. (Original) A method as in claim 48, whereby the step of reading does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

52. (Original) A method as in claim 48, whereby the step of reading incorporates and implements the functionality of the CSS Authentication Algorithm, and involves the Authentication Key.

53. (Original) A method as in claim 48, whereby
the step of reading performs the function of an Authenticator for CSS Decryption Module; and
the step of playing back performs the function of a Descrambler;
as those terms defined in the CSS Procedural Specifications.

54. (Original) A method as in claim 48, whereby, when the step of reading begins, it includes the step of obtaining software from the storage element.

55. (Original) A method as in claim 48, whereby, when the step of playing back begins, it includes the step of obtaining software from the storage element.

56. (Original) A method as in claim 55, whereby the operating software for the step of reading, the storage element, and the step of playing back is not based on a general-purpose operating system such as Microsoft Windows, or Linux, or a version of Unix.

57. (Original) A method as in claim 48, whereby, the audio data output from the step of playing back is either in a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

58. (Currently Amended) A method as in claim 48, whereby, the analog video data output from the step of playing back does not have higher resolution than standard definition, unless the content recorded on the DVD ~~physical medium~~ has itself that higher resolution.

59. (Original) A method as in claim 45, wherein the protected form includes at least two of:

an encrypted form of the digital content;

an encrypted form of the digital content complying with the CSS license;

a form of the digital content including digital rights information;

a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

60. (Original) A method as in claim 45, wherein the protected form includes an encrypted form of the digital content complying with the CSS license; and an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back.

61. (Currently Amended) A method as in claim 45, wherein ~~the physical media includes at least one DVD and~~ the step of reading occurs in at least one DVD drive in a media reader.

62. (Canceled)

63. (Original) A method as in claim 61, wherein the media reader includes a first authenticator.

64. (Original) A method as in claim 63, wherein the method complies with CSS procedures.

65. (Original) A method as in claim 64, wherein part of complying with said CSS procedures includes having the first authenticator and a second authenticator authenticate each other before permitting access to data.

66. (Original) A method as in claim 64, wherein part of complying with said CSS procedures includes using CSS descrambling procedures.

67. (Original) A method as in claim 64, wherein part of complying with said CSS procedures includes extracting keys that can be used to descramble CSS data, by an indirect manner

from the key materials copied from the optical disc, using a key associated with the playback device, that key not being available from the optical disc.

68. (Original) A method as in claim 64, wherein part of complying with said CSS procedures includes having the first authenticator and the second authenticator authenticate each other before the media reader permits access to data, and using CSS descrambling procedures.

69. (Original) A method as in claim 45, wherein at least two of the following steps occur at logically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

70. (Original) A method as in claim 45, wherein at least two of the following steps occur at physically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

71. (Original) A method as in claim 45, wherein the step of playing back occurs at a plurality of playback devices, at least two of those playback devices being pairwise substantially physically remote from each other.

72. (Original) A method as in claim 45, wherein a substantial time duration occurs between the step of non-evanescently storing and the step of playing back.

73. (Original) A method as in claim 74, wherein the digital content is transported any substantial distance between the step of reading and the step of playing back.

74. (Original) A method as in claim 45, wherein the digital content is transported any substantial distance between the step of reading and the step of playing back.

75. (Original) A method as in claim 45, wherein at least one system internal link is used between two of the steps of reading, non-evanescently storing, and playing back, the at least one system internal link including a link able to communicate compressed digital data representing media streams but which need not be substantially able to effectively and timely communicate uncompressed digital data representing media streams; and

wherein any key materials in data communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key.

76. (Currently Amended) A method of doing business, including steps of sending data from a device that reads a DVD ~~physical medium~~ to a remote playback device while complying with CSS license agreement terms and CSS procedural specification terms to discourage unauthorized copying of the data.

77. (Original) A method of doing business as in claim 76, wherein the steps of sending data to a remote playback device include causing that playback device to be ready to playback that data.

78. (Canceled)

79. (Currently Amended) A method of doing business as in claim 76, wherein the device that reads the DVD ~~physical-medium~~ and the remote playback device have separate controlling CPUs, and have at least one of the properties in the set: being logically remote, being physically remote.

80. (Currently Amended) A method of doing business as in claim 76, including steps of storing data from the DVD ~~physical-medium~~ in a storage element capable of non-evanescently storing that digital content using a storage technique substantially different from the DVD ~~physical-medium~~.

81. (Currently Amended) A method of doing business as in claim 76, including steps of storing data from the DVD ~~physical-medium~~ in a storage element capable of non-evanescently storing that digital content using a storage technique substantially different from the DVD ~~physical-medium~~; and

wherein the playback device is coupled to the storage element, the playback device having an input disposed for receiving the digital content and having an output disposed for coupling a media stream represented by that digital content for presentation.

82. (Original) A method of doing business as in claim 81, whereby the playback device includes a CSS descrambler.

83. (Original) A method of doing business as in claim 81, wherein the playback device includes a plurality of those outputs disposed for presentation, at least two of those outputs pairwise have separate controlling CPUs, and have at least one of the properties in the set: being logically remote, being physically remote.

84. (Original) A method of doing business as in claim 81, wherein the playback device includes at least one of those outputs disposed for presentation and having at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element, having a distinct controlling CPU from the storage element.

85. (Currently Amended) A method of doing business as in claim 81, wherein data is read from the DVD ~~physical medium~~ by a media player before being sent to the storage element, and wherein the media reader includes a read element capable of being coupled to the DVD ~~physical~~

~~medium~~, the digital content being maintained in a protected form between the media reader and at least one of: the storage element, the playback device.

86. (Original) A method of doing business as in claim 85, wherein
at least two elements in the set: the storage element, the playback device, the media
reader;

have collectively more than one controlling CPU, and have pairwise, at least one of
the properties in the set: being logically remote, being physically remote.

87. (Currently Amended) A method of doing business as in claim 85, wherein the
digital content is maintained in a protected form for substantially an entire path including:

between the DVD ~~physical-medium~~ and the media reader;

between the media reader and the storage element;

when maintained on the storage element;

between the storage element and the playback device.

88. (Original) A method of doing business as in claim 85, wherein the protected form
includes at least two of:

an encrypted form of the digital content;

an encrypted form of the digital content complying with the CSS license;

a form of the digital content including digital rights information;

a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

89. (Original) A method of doing business as in claim 85, wherein the protected form has at least one of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

90. (Original) A method of doing business as in claim 85, wherein the protected form has at least two of the properties in the set:

resistant to attempts to defeat copy protection afforded by the protected form,
impossible to defeat using user tools,
difficult to defeat using professional tools.

91. (Original) A method of doing business as in claim 85, wherein the protected form is substantially resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools.

92. (Currently Amended) A method of doing business as in claim 81, wherein the storage element has capacity to concurrently store digital content from plural DVDs ~~physical media~~.

93. (Original) A method of doing business as in claim 81, wherein
at least one possible output from the playback device includes an analog audiovisual content; and
the second protected form by which the analog audiovisual content is protected includes analog copy protection.

94. (Original) A method of doing business as in claim 93, wherein the analog copy protection is Macrovision copy protection.

95. (Original) A method of doing business as in claim 81, wherein
at least one output from the playback device includes a digital audiovisual content;
and
the second protected form by which the digital audiovisual content is protected includes a technique substantially like HDCP.

96. (Original) A method of doing business as in claim 81, wherein operation of the system includes at least a substantial time duration between a first time of storage of the digital

content at the storage element, and a second time of output of any media stream derived in response thereto.

97. (Original) A method of doing business as in claim 81, wherein the digital content is transported any substantial distance after being read by the media reader and before being output by the playback device.

98. (Original) A method of doing business as in claim 81, including at least one system internal link, the at least one system internal link including a link able to communicate compressed digital data representing media streams;

wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, DRM information, DRM key information.

99. (Original) A method of doing business as in claim 98, including steps of coupling by a least one system internal link, at least two of the set: the media reader, the storage element, the playback device.

100. (Currently Amended) A method of doing business as in claim 81, wherein data is read from the DVD ~~physical-medium~~ by a media player before being sent to the storage element, and wherein the media reader includes

a read element for the DVD ~~physical-media~~, the DVD ~~physical-media~~ including digital content representing at least one media stream, the digital content being maintained in a protected form, and the read element including a first authenticator;

a second authenticator;

an interface to a storage element; and

a controller capable of (1) causing the first authenticator and the second authenticator to authenticate each other before the read element accesses the DVD ~~physical-media~~, and (2) causing the read element to read data from the DVD ~~physical-media~~ and output the data to the interface with DRM information intact.

101. (Original) A method of doing business as in claim 100, wherein the read element includes a DVD drive.

102. (Original) A method of doing business as in claim 100, wherein the media reader can output the data to the storage element whether or not the storage element is logically remote from the media reader.

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103. (New) Apparatus as in claim 1, wherein the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.